



## *The H21 system*

By Sholari James

### **The star system**

When the Terran scientist first received images of the strange and perplexing world of Jorune they were astonished by this astronomical constellation and the system that had birthed it.

As the first probes travelled through the uncharted system they transmitted a lot of astonishing data back to Earth. Strange energy readings were detected around the innermost four planets and a seemingly lawless arrangement of planets was charted. Most of this data remained unnoticed in the shadow of the discovery of intelligent life outside of humanity's own star system.

At the centre of the system lies the medium sized yellow star **H21** (in the Hyad constellation). Similar in size and gravity to Sol, it is orbited by nine planets and two large asteroid belts.

Unlike the Sol system, H21's closest planet is a huge, dark blue jovian (gas giant) named **Stygia**. Stygia is nearly four times the size of Jupiter and only 0.3 AU away from its star. Great solar protuberances sometimes reach all the way to Stygia, reacting with its atmosphere. On some rare occasions (once or twice in a 200-year period) the atmosphere of Stygia ignites and burns brightly for a week or two. During this time Stygia can be seen at night on the Jorune sky. Tolamuun priests have named this phenomena – Destitta "Desti's Child", as the red, glaring star wanders between the moons.

It is common for many star systems to have one large gas giants that has slowly wandered inward through the system, swallowing all other solar satellites in its way. Therefore, the Terran scientists were surprised to see a gas giant so close to H21 with eight other planets still outside it. Stygia lacks any natural satellites, which probably is attributed to the sometimes violent flaring and burning of the atmosphere.

Beyond Stygia are two smaller terrestrial (stone/rock-based) planets called Lemuria and Eden. **Lemuria**, the closest to Stygia, is a very large planet with such massive gravity that humans would have great problems surviving physically on its surface. Twelve moons orbit Lemuria. Two of these seem to once have been one moon that was split by either collision or gravitational forces. It is a desolate and barren wasteland, scorched by H21's intensive glare. Terran probes found large iron deposits and old lava fields brimming with easily processed ore. The planet was a potential source for new metallic resources for the Jorune colony.

**Eden** is a very small, dusty world with a chaotic atmosphere and tremendous wind speeds. Manned expeditions found nothing of value on this world except for large crystal deposits that seemed to charge the atmosphere with the same type of energy field that enveloped

Jorune. Eden has no moons but a fair amount of small debris orbiting the world in a nearly invisible ring.

**Jorune** and its moons baffled the scientists of Earth. In an astronomical sense, Earth had been an unusual planet with its large moon. It was considered a twin planet system as the two bodies clearly influenced each other. It was unheard of in the Sol system, and quite rare in other systems, to find a planet with such a large moon. Now, Jorune had seven large moons. Two of these (Tra and Launtra) were slightly smaller than Earth's moon, while four (Shal, Ebba, Gobey and Du) were larger. One of the moons (Desti) was enormous. The many moons create far more solar and lunar eclipses than on Earth. On average there is one partial or total solar eclipse every two years in Burdoth.

Jorune's axial tilt is nearly identical to that of Earth and the planet orbits H21 in 324 days. As a result Jorune has different seasons where average temperatures fluctuate between summer and winter. The sidereal day of Jorune is 27 Terran hours and four minutes. Humans handle the slightly longer day by taking a nap during mid-day or late afternoon. Just like the Mediterranean countries on Earth, it is common for trade and commerce to endure past midnight. Jorune is slightly larger than Earth but has a fraction less gravitational pull because of its large quantities of crystalline substances instead of iron as on Earth. This effect is only felt during the first few days by a newly arrived colonist or traveller. Because of this, a Terran-born human would be slightly stronger in average than a Jorune-born human. Furthermore normal humans of Jorune tend to be slightly taller than Terran humans.

The many moons of the planet influence many things such as creating strange weather patterns, tidal havoc both with water and seismic activity and influencing the behaviour of many animals. The most important effect the moons have on Jorune is the strange phenomena called isho. The first Terran scientists quickly found that the strange, and at that time, mysterious energy field permeated the whole planet and reacted with the atmosphere. This energy was found to be harmless but was never fully explained as more than weird static discharges. The scientists understood that the moons were linked to Jorune's strange energy field, but did not notice that Jorune was also linked to its neighbouring planet Elysium. Shantas can "perceive" or "feel" how the isho flows between Sho-Caudal and the moons. It is natural and easy for them to understand how these objects high above them interact with their world and creates the sho-sen as an effect of the energy that bounces back and focuses on the gravity well that is Jorune. The moons of Jorune are as follows:

**Desti**, the largest of the moons, is more than six times as big as Earth's moon. It is composed of red swirling gases and darker red cloud patches. Terran scientists detected a small and very dense core of solid matter deep within the gas moon. Its gravitational pull effects Jorune in many ways such as tides and currents, but also seismic activity. It is clearly visible from Jorune (sometimes clearly in daylight).

**Du** is the second largest of the moons with a diameter three times as big as Earth's moon. Du is covered with quickly swirling amber gas clouds. Unlike Desti, the clouds are only part of a thick, gaseous atmosphere and the moon has a solid surface smaller than Earth's moon underneath. However, the cloud cover is so thick that the surface of Du has never been seen. It looks like a small version of a gas giant with its smooth, amber cream surface.

**Ebba** is nearly twice the size of Earth's moon and has no atmosphere. It is filled with large craters, dark mountains, deep canyons and large, silver plains. Its appearance and details have sparked many myths and is every night admired by the inhabitants of Jorune. The large plains are composed of crystal lava that was once pushed up to the surface of the now cold moon. The plains are filled with crystals of all sizes and shapes that reflect the light from H21.

**Gobey** is slightly larger than Earth's moon, but has a dark surface that reflects little light. Only its outline is seen on the night sky and its presence is felt through the dark, star-less patch in the sky. Gobey has no atmosphere. Tolamuun priests have seen more of its scarred and rocky surface through their telescopes (as a telescope magnifies light) than anyone else. Terran scientists found that Gobey's core still was molten and active. On very rare occasions volcanoes erupt on Gobey and can be seen by the naked eye as a small red dot. Tolamuun astrologers refer to these as Gobey's Wrath.

**Shal** is an elegant and pristine moon with no atmosphere and is roughly the same size as Earth's moon. It has some scarring and craters, but is relatively smooth in comparison to Ebba. Among the larger cracks of Shal's surface the Terran scientists found large crystal deposits extending far down into the centre of the moon. The scientists came to the conclusion that the moon is composed of more than 30% crystalline matter. A strong energy field, identical to the energy field which surrounded Jorune, was noticed on Shal.

**Launtra** is slightly smaller than Earth's moon. Its surface is very bright and reflects a great amount of light of the light green spectrum. It is the strongest shining moon orbiting Jorune. The moon is void of atmosphere and has many craters and ridges visible from the planet. The light from Launtra at full moon is much stronger than that of a full moon on Earth. It is said that Jorune women can thread a needle and sew in its light.

**Tra** is only two-thirds the size of Earth's moon. Compared to Desti and Du, it is a very small moon on the night sky. A white and grey cloud layer covers Tra. Darker patches can also be seen in the otherwise bright cloud layer. At times they seem to grow steadily, disperse, and then disappear. On some rare occasions Tra's dark brown surface can be seen as the clouds open up for a few days. Shanta have always regarded Tra to be special and many humans swear that the future can be predicted by studying Tra's ever-changing clouds. Historic plagues, wars and other disasters have reputedly happened when Tra has had an enormous increase in dark clouds, which nearly entirely covered its surface. The aeon old wars that were fought between the shantic sects in ancient times were said to cause Tra to hide its face in darkness for hundreds of years. Tra has always held a special position among caji as being the collective isho force that is composed of all colours. It is related to warps and the creation of cle-eshtas. Terran scientists found a few volcanoes and a toxic atmosphere that had the potential for bacterial life. It is these volcanoes that spew out smoke which frequently cover the moon in darker clouds. Tra, its strange energy field and the curious rumours of ruins was studied closely by a small group of Terran scientists. However, the secrets

they might have uncovered were never revealed before the colony was destroyed.

The system's second jovian, **Elysium**, lies beyond Jorune. It is a magnificent and pristine planet the size of Jupiter with gold and green clouds spread evenly over its immense surface. The planet has four large rings of varying colours, gold and blue being predominant. Seventeen moons circle Elysium. Ten of these are very small and barren rocks. Four of the moons have a lot of thermal activity and volcanoes glare on their surfaces as Elysium pulls their molten cores towards it. Three of the moons have their own atmosphere, which consists mainly of noxious gases flowing or boiling over icy surfaces. Tharsis, the greatest of the moons has a thin atmosphere covering a chaotic volcanic landscape. If it wasn't for the tremendous radioactivity of Elysium, the moon could have supported smaller life forms. The rings slowly shift colour and shape to become oval and purple at times. Terran scientists did not spend much time studying Elysium or its rings when they first arrived. Only a year before the colony was destroyed, a team of scientists found that an identical energy field to that of Jorune permeated Elysium. This energy field was much stronger and seemed to react with the planets Jorune, Eden and Lemuria. When all these planets were aligned, the rings would change colour as the invisible isho bridge between them became charged. The scientists developed a theory that the planets trapped between the two gas giants were of the same matter as Elysium. The same main crystalline elements were found on the stone planets and on Elysium's moons. These crystal deposits seemed to be charged when gravity wells such as planets and moons "rubbed" against each other. Most noticeable and volatile was this effect on Jorune with its charged moons that "rubbed" against Jorune. It is, however, clear that Elysium and the inner rock-planets also are otherwise linked by their common mysterious phenomena: isho. The Terran scientists never solved the isho mystery.

Elysium and Stygia protect the planets between them with their strong gravitational pull by acting as vacuum cleaners and attracting all kinds of cosmic debris that could have impacted on the planets as meteorites. Elysium can be easily seen from Jorune and is, together with Stygia, Lemuria and Eden the most noticeable of the system's planets.

Beyond Elysium lies the small planet **Atlantis**. It was given its name by the Terran scientists who found an ice-covered ocean bombarded by all kinds of meteorites from the nearby asteroid belt. The craters and cracks of Atlantis icy surface are easily seen from space. Warmer and darker water has flowed to the surface after an impact and frozen. This has given Atlantis many darker stains on its pale surface. Some probes penetrated the kilometre thick layer of ice and investigated the dark ocean below. It has the potential for microscopic life close to its submerged volcanoes, but no evidence was ever found. Too little time was spent investigating this frozen world.

The immense **Brent Asteroid Field** lies beyond Atlantis. It was targeted as the main supply of easily accessible ore in the system to be used to sustain the Jorune colony's need and an upcoming mining venture. Two experimental URMS (Unmanned Roving Mining Stations) were tested in the asteroid field. These were abandoned to their fate when the Jorune colony was attacked. The URMS continued to operate for a couple of hundred years until they had been damaged beyond self-repair by smaller debris of the asteroid field.

Beyond the Brent Asteroid Field lies the two outermost terrestrial planets Asgard and Bifrost. **Asgard** is more than four times larger than Earth and is orbited by six moons.

Meteorites from the Brent Asteroid Field and Scylla's necklace bombard Asgard endlessly. Many craters can be seen on its dusty and lifeless surface. Darker, deeper lying dust is seen at the centre of the craters, giving Asgard a spotted appearance. The largest crater, the Philips Crater, has torn a mighty hole into the planet's surface and is the most noticeable detail of the planet. The crater is three kilometres deep and 2000 kilometres in diameter. The light brown hue of the planet reflects a lot of H21's light and those who know where to look can easily find the planet in Jorune's night sky. From space, Asgard shines with a golden hue. The light brown hue and the darker spots at the centre of the craters gave the first explorers the impression of golden wood. The immense gravity of Asgard prevents any human from ever setting foot on the planet. Terran probes found nothing special of value on the planet to attempt any further exploration.

**Bifrost** is a small block of ice with a stony interior, orbited by two barren moons. Like Asgard it is bombarded with meteorites. Bifrost's craggy, icy surface reflects little light and the planet has never been detected by Tolamuun priests. Terran probes explored Bifrost very late as the scientists didn't discover its existence until after arrival to the system. They found nothing of value, except for an abundance of ice that could be used to create water and air for a future supply base.

Another asteroid belt lies outside Bifrost. It is called **Scylla's Necklace**, as it is influenced by the strange planet Scylla. It is not as large as Brent Asteroid Field but its outer edge is more ragged and torn due to the gravitational pull of Scylla that passes close to it. A lot of meteorites crashing through the system originate from Scylla's Necklace and are flung outward and inward from the belt when Scylla tears at it.

The outermost body of the system, **Scylla**, is a strange space anomaly and a great peril to space exploration in the outer parts of the system. It consists of a cold, slushy, slow whirling gas planet with an enormous gravitational pull. Scylla attracts a lot of asteroids and planetoids from Scyllas Necklace and the system's Kuiper Belt. The extended arms of debris circle around Scylla, giving it an appearance of a slowly whirling maelstrom or a small galaxy. The effected area around Scylla is very large and the first Terran probes investigating the anomaly couldn't escape the gravitational pull and were destroyed. The anomaly was never studied in detail, but Terran scientists theorised that a great gas planet somehow had collapsed into some kind of dense matter that might one day develop into a black hole and destroy the system. Other theories suggest that Scylla is actually the first stage of a super gas giant that is building up mass. How such a small black hole can exist or why one single planet would be so much younger than any of the systems other planets is unknown.

A brief summary of the H21 system and main distances from its star.

#### **Star: H21**

1 Stygia – Super jovian (gas giant). Sometimes ignited by H21.	[0.209 AU]
2 Lemuria – Very large and barren terrestrial planet	[0.573 AU]
3 Eden – Small terrestrial planet. Stormy and electrical atmosphere	[0.832 AU]
4 Jorune – Life supporting terrestrial planet with seven moons.	[0.988 AU]
5 Elysium – Ringed and beautiful jovian with a strong isho field.	[3.799 AU]
6 Atlantis – Frozen water world with dark oceans under the ice.	[9.732 AU]
Brent Asteroid Belt – Huge asteroid field.	[12-15 AU]
7 Asgard – Huge terrestrial planet with golden hue & many craters.	[18.312 AU]

8 Bifrost – Small, dark block of ice.	[30.442 AU]
Scylla's necklace – Ragged and torn asteroid belt close to Scylla.	[35-36 AU]
9 Scylla – Space anomaly resembling a great maelstrom.	[41.591 AU]

Many smaller bodies exist within the H21 system. Large asteroids and planetoids are mainly found outside Elysium and close to the asteroid fields. A couple of comets circle the system and can be seen from time to time in the Jorune night sky. As shanta are unable to see these, they have no shantic names. The comets have instead been named by humans throughout the ages. Most of the comets have some kind of religious importance or are seen as heralds of change or doom. The most well-known of the comets are:

**Tra's Arrow** is the most renowned comet and the biggest. It circles the system in an elliptical orbit and can be seen in the Jorune night sky for a month every 43 years when it is closest to H21, leaving a long and clearly visible cometary tail. Humans, bronth and woffen have many legends surrounding the comet. Thriddle call it Jillip (a small, long-tailed bird) and crugar refer to it as Jikraw (Long Star).

**Aghul & Lahrek** are twin comets that can be seen every 31 years. Although smaller in size than Tra's Arrow, the pair is an extraordinary sight when they appear. Tolamuun and Dow astrologers claim that the immediate future is dependant on which of the pair is the strongest and has the longest tail. Many different stories abound about these brothers who compete for the love of certain stars or star-signs.

**Shandane's Wagon** is a fairly new comet that first appeared a year after the great sage Shandane's death. It was heralded as Shandane's war chariot, carrying his immortal soul, by the coralli priests. This name has stuck and spread throughout The Crescent Moon of Civilisation. It is very important in the Coralli religion of the sholian people of Heridoth. Its tail is very long and it can be seen every 7 years as it circles very close to H21.

A comet that passed very close to Elysium was torn to pieces by its gravity. The debris of this comet now circles the system and Jorune passes through it once a year, igniting a fantastic display of meteor showers as thousand of micrometeorites hit Jorune's atmosphere at colossal speeds. Caji throughout The Crescent Moon of Civilisation celebrate its coming by lawful displays of dyshas that are hurled skywards. The fragments of the comet have, however, not always been so harmless. The same year the comet was destroyed, Jorune suffered over 300 large impacts from meteorites. The largest struck the Drail continent and left great devastation behind. The Shuul between Lundere and Dobre is the scar it left behind in the Northern Hemisphere. For more than 180 years (between 1121 and 1307 PC) Jorune was annually hit by smaller meteorites that sometimes would strike settlements. Ancient Tolamuun scrolls mentions the Fire Rain of this time, but all other cultures seem to have forgotten about the death that came from the sky.

## **Terran remains**

When the first Terran scientists arrived to the H21system they created the **Lunar Field Station**, which was a base on the moon Ebba. From this base the scientists could safely study the planet Jorune and its inhabitants. Only after the shanta had agreed that the scientists were allowed to live on the surface was the main bulk of the outpost moved down to the planet. The original science outpost always remained manned, along with its

additions (long-range communication arrays and Inter System Vessel Trackers). Scientists studied the vast crystal fields of the moon, and were close to a breakthrough, regarding the strange but seemingly harmless energy field surrounding Jorune and its moons. The scientists abandoned the base when conflict broke out on Earth. The last operational personnel abandoned the communications and tracking installations in haste when the Jorune colony was attacked. Deserted machines and buildings still stand, untouched and preserved over the millennia.

**Desti Space Station** is the last out of three Space Stations orbiting Jorune and its moons. The others have long since fallen into Jorune's or Desti's atmospheres. Desti Space Station is a fairly large complex that was built to receive colony ships and supply ships. The ships would either unload their cargo (supply ships) at the station or stop by to revive its colonists in cryo stasis. The main bulk of the personnel onboard abandoned the station together with the personnel of the Ebba stations to relieve the colonists on the planet.

Desti space station has a corporate colony ship "Grendel II" docked to it, which arrived shortly after the Jorune colony had been attacked and destroyed by the shanta. Since no personnel remained onboard the space station, the AI was not authorised to revive the corporation colonists onboard. The majority of the cryotubes containing colonists have failed over the millennia, however, a handful cryotubes remain in perfect hibernation.

The station itself is partly destroyed by a meteor, but still functions partially, thanks to the radiation shielding from H21 provided by Jorune and Desti. Small landers and inter-system shuttles can still be found in the intact docking bays along with space suits, tools, repair drones and a multitude of tools and computers (normally attached to the station).

Tolamuun astrologers have detected the strange structure that orbits Desti, but have not figured out what it might be. They have named it Desti's Follower or the Spiky Moon.

**Unmanned probes** landed, explored and were abandoned on most of the planets of the system and some of the larger asteroids. Only on Lemuria, Asgard and Bifrost can these still be found today. Unable to escape the planets gravitational pull, these probes were soon destroyed by space radiation. Their hulls are silent reminders of the original Terran exploration of the system.

**Two satellites** still orbit Jorune. They were made to serve multiple purposes and are self-repairing. The satellites still provide GPS information, weather statistics and open communications channels to anyone linking up to them from the planet. Some flaws have been unavoidable and the AIs onboard might garble messages and make strange operational decisions.

An **automated colony supply ship** arrived to the H21 system three years after the shanta had destroyed the Jorune colony. As it was not guided to Jorune or its (at that time) still functioning Space Stations its AI placed it in temporary orbit around H21. It has stayed in orbit for more than three millennia, its AI always altering the trajectory to maintain orbit. Although heavily shielded from radiation, the ship has finally succumbed to the radiation of space and the devastating solar winds of H21. The AI is damaged beyond repair and has shut itself down. The orbit around H21 is slowly deteriorating thanks to the influences of Stygia. The ship is doomed to within 300 years be caught by the gravitational pull of Stygia or H21 and be destroyed.

The Brent asteroid belt holds the mangled remains of **two experimental URMS**. One is smashed to debris by colliding asteroids and the other is a dead wreck on one of the larger asteroids. The remains are a sad testament to the abandoned Jorune colony.

## **Astronomy on Jorune**

On a medieval world like Jorune astronomy is an incorrect term to use for the study of the moons, planets and stars. Those that study the objects of the sky often base their assumptions and theories upon laws and rules that also apply to their view of the world, their gods, fate, isho etc. Therefore, the term astrologers is a more suitable term.

With their tra-sense shantas are limited to all the things that can be “perceived” with isho or that which influences the isho. The shanta cannot detect the stars or the other planets of the system. They sense the sun thanks to the rays that heat their bodies. Neither have the shanta ever seen shooting stars or even the high clouds of the sky. [See the *Isho, sho-sen and tra-sense* essay for more details about how the shanta perceive the world.]

Humans on Jorune, on the other hand, have always revered the stars, moons and sometimes planets in their songs, stories, religions or history. Legends and religions have proven to hold small grains of truth regarding mankind’s origins among the stars.

Most creatures have traditionally pieced together star-signs or symbols in the night sky. Different cultures have different names and shapes for these various star signs. Legends and religion are often based upon fairly insecure facts about stars, moons and planets. Only the few people who actually have made some proper studies of the stellar bodies can be regarded as astrologers. Even then, astrology is at best tainted by belief, faulty theories and superstition. Astrologers often find non-existent connections between planetary or lunar alignments and fate, the behaviour of creatures, actions of leaders etc.

However, some astrologers have actually made correct observations about the moons and planets. Foremost among these are the Tolamuun priests of the Lusail province in Burdoth. Also certain iscin, the thriddle and the ramian rochka have made very good observations of the night sky. The planets Stygia, Lemuria, Eden and Elysium can all be seen from Jorune with the naked eye. With the primitive telescopes of the astrologers, Atlantis and Asgard can also be seen. Subtle details such as the lunar landscapes and the rings of Elysium can be seen with the telescopes, as well as some more disturbing and unexplained items on or close to the moons (lunar bases, space stations and satellites).

[See *Jorune Astrology* essay for more details]